

Once more with feeling: future directions for teaching psychomotor skills

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Psychomotor skills employed by physiotherapists are just techniques unless they are integrated into a responsive approach respecting an individual patient's goals and values. Skills in action, perception and interpretation are essential for effective physiotherapy practice, but are time consuming to teach and difficult to learn. The demands placed on teaching time by the increasing scope of physiotherapy practice combined with the subjective nature of manual techniques make it increasingly difficult to retain sufficient teaching time for adequate skill development. The subjectivity of skill development can be reduced through knowledge of the physical characteristics that are related to symptoms or pathology. Recent research in areas including spasticity, lymphoedema and musculoskeletal conditions has begun to quantify how complex, palpable physical characteristics are related to patient impairments. Subjectivity can also be reduced if students have skills such as abilities to produce consistent forces or assess stiffness, temperature or viscosity that are objectively rather than subjectively referenced. These generic skills are typically assumed rather than taught, but can now be developed through independent learning using physical and/or electronically modulated (haptic) models. Task-specific simulators have been shown to improve skill development in surgical procedures, but are less well developed for manual assessment or treatment techniques. Types of sensors as well as physical, haptic and hybrid simulators that are currently employed or under development in a variety of professions will be demonstrated and discussed. Examples will also be presented of how even the most sophisticated technology must be integrated into an efficient and effective teaching program.